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ABSTRACT

Developed in an attempt to clarify the concept of agribusiness and intended for use with its companion document, "Teaching the Meaning and Importance of Agribusiness," this manual is designed to assist youth in understanding the magnitude of agribusiness, and shows that agribusiness involves the removal of traditional farm functions to off-farm sites. To aid in understanding the meaning, nature, and importance of agribusiness, the manual addresses the following questions in separate units: What is agribusiness? How is agribusiness related to agriculture? What is the "chain of agribusiness"? How did agribusiness evolve? How can the evolution of agribusiness be depicted? What contributed to the evolution of agribusiness? How important is agribusiness? and What are some terms that are used in describing agribusiness? A selected bibliography and sources of additional information are appended. (HD)

A Reference Unit on the Meaning and Importance of Agribusiness

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PREFACE

The concept of agribusiness is elusive. Sometimes agricultural educators feel that they are comfortable with the explanations they have. At other times it is difficult for them to specifically define what agribusiness means.

This publication was developed in an attempt to clarify the concept of agribusiness. Dr. Thomas Foster, Agricultural Economist at Mississippi State University, often uses the expression that "agribusiness is a farm all stretched out." In final analysis, he is absolutely correct. This publication shows that agribusiness involves the removal of traditional farm functions to off-farm sites. Such an explanation of agribusiness embraces terms such as segmentation, decentralization, and specialization.

The preparation of workers for agribusiness occupations is a definite responsibility of agricultural education. This publication should assist youth in understanding the magnitude of agribusiness. Perhaps it will inspire youth to pursue agribusiness occupations.

One final note on agribusiness is appropriate at this point. In reviewing the literature, it is evident that two spellings for the word "agribusiness" are used. One involves placing a hypen between **agri** and **business**. The author chose to use the term without a hyphen. The author further believes that as the concept matures the trend will be toward using **agribusiness** rather than **agri-business**. In another sense, agriculture and business are inseparable.

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INTRODUCTION

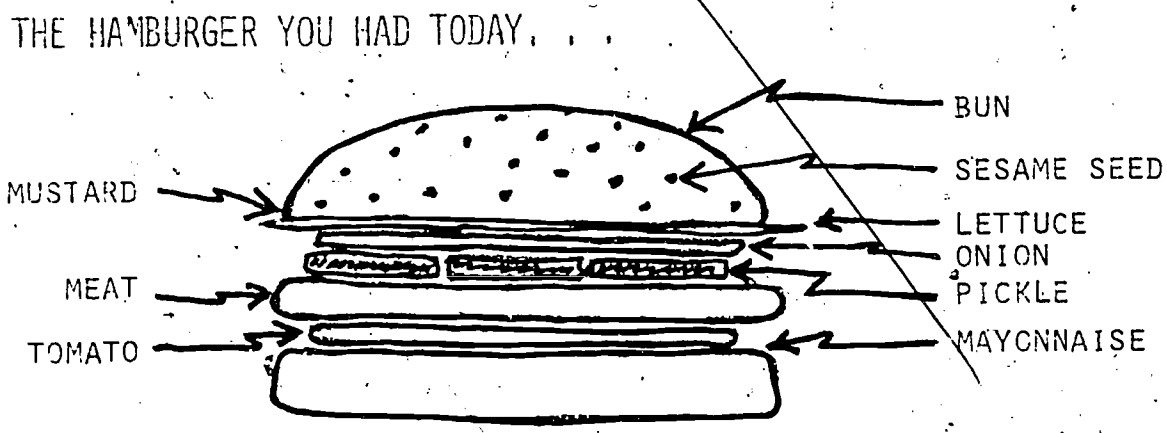
Man has certain needs. Primary among these are food, clothing, and shelter. Meeting these needs is not a simple process, especially in modern America. Agribusiness plays the role of providing the supplies and services needed by farmers and getting (processing, distributing, etc.) the farm products to the consumer. In fact, without agribusiness, the primary needs of man could not be met as they currently are. This Unit is intended to aid in understanding the meaning, nature, and importance of agribusiness. The following questions will be discussed:

1. **What is agribusiness?**
2. **How is agribusiness related to agriculture?**
3. **What is the "chain of agribusiness"?**
4. **How did agribusiness evolve?**
5. **How can the evolution of agribusiness be depicted?**
6. **What contributed to the evolution of agribusiness?**
7. **How important is agribusiness?**
8. **What are some terms that are used in describing agribusiness?**

1. What is agribusiness?

Agribusiness involves making available food, clothing, and shelter in desired and economical forms. These are essentials for the life of man. Sometimes, the term "agribusiness" is given different meanings. In the broad meaning, agribusiness refers to all of agriculture, including farming. The reasoning is that farming is a business — and it is. This broad meaning is not widely used but is becoming more common.

A narrower meaning — and the one used throughout this Reference Unit — is that agribusiness refers to the business and manufacturing activities involved in (1) supplying the inputs needed for farming and (2) marketing the products grown on farms. It includes the provision of all the goods and services required to produce farm commodities and get them to the consumer. This implies an interdependence, or blend, between agriculture and related business. "Inputs" refers to items used in producing crops, such as fertilizer, financing, seed, and feed. Marketing includes taking products, such as milk, meat animals, and vegetables and converting them into desired forms. Some of the functions in marketing include grading, storing, processing, packaging, transporting, pricing, and merchandising. Both food and nonfood products are included. (See Figure 1 for an example of the agribusiness activity involved in getting an ordinary food item.)



BUN – From WHEAT grown in Kansas, milled in Missouri, and baked in Mississippi

SESAME SEED – Grown in Texas

MEAT – From BEEF grown in Mississippi, fed in Texas, and slaughtered in Mississippi

MAYONNAISE – Blended in Ohio from EGGS produced in Mississippi, VEGETABLE OIL produced in Illinois from corn grown in Iowa, LEMON JUICE produced in Florida, SALT mined in Utah, and CONDIMENTS from various continents

TOMATO– Grown in California

PICKLE – Pickled in Mississippi from CUCUMBERS grown in Alabama and SPICES from various continents

LETTUCE – Grown in Texas

ONION – Grown in Pennsylvania

MUSTARD – Blended in New York from MUSTARD SEED grown in Montana, SALT mined in Utah, SPICES from various continents, and VINEGAR manufactured in various locations

Figure 1: Considerable Agribusiness Activity is Involved in Getting an Ordinary Hamburger to the Consumer.

Food products are those used for human consumption. Nonfood products are those used for purposes other than food. Sometimes this distinction is difficult to make. For example, corn may be used for human food or to feed livestock. In the latter case it is a nonfood. Other products, such as cotton and tobacco, are clearly nonfood. However, the seed of cotton may be used in the manufacture of certain foods and, in this instance, would be a food product.

Agribusiness also includes other areas which have not been traditionally thought of as agricultural in nature. Ornamental horticulture, forestry, and natural resources are often included. Most of these involve common areas of agricultural knowledge, such as plant, soil, and animal sciences. Many thousands of jobs are found in these areas. Examples include greenhouse growers, forestry technicians, soil conservationists, and wildlife specialists.

2. How is agribusiness related to agriculture?

Agriculture is often said to include all of the services and activities involved in producing plants and animals and their products, and in getting them to the consumer. This, first of all, includes producing or farming. Secondly, agribusiness is very much a part of this process. It would be very inefficient for the farmer to produce the seed, chemicals, feed, equipment, animal medicines, and other speciality items needed. In fact, many of those which are commonly used by farmers today would not be available if they were not produced by agribusinesses. After the farmer has produced the crops, agribusinesses assemble, process, and distribute the food and nonfood products.

The role of agribusiness, as related to the farmer, is sometimes compared to the space program. Many people are involved in launching a space ship. Such a ship usually carries only a few people, often no more than three. The crew on earth which was responsible for the flight is very large — numbering into the thousands. The same tends to be true of a modern farmer. One farmer depends upon the work of many other people to supply the inputs he needs and market the commodities he produces.

Two general examples and one specific example of how agribusiness is a part of agriculture are given below.

General Example Number 1 — Corn Products

Corn products are said to originate on the farm. However, inputs come from many sources off the farm. A modern corn farmer is very dependent upon agribusiness. Most corn farmers plant seed of improved varieties. These varieties were probably developed by agricultural scientists working on research farms or experiment stations. The seeds have been carefully produced and handled by an agribusiness seed company. The farmer will apply fertilizer to increase the yield of corn. The fertilizer was probably obtained from a nearby distributor, sometimes known as a farm supply company. The distributor probably obtained it in bulk quantity from a fertilizer manufacturer. Chemicals made by an agribusiness chemical company are used to control weeds and insects. Equipment to prepare the soil, plant the seed, apply chemicals, and harvest the crop was made by an equipment manufacturer and distributed by a dealer. The local dealer also has the role of supplying parts and repair services. Harvested corn may be stored on the farm or in a nearby grain elevator. Trucks, trains, and ships may be used to haul the corn to market or processor. The corn may be made into animal feed or processed for human consumption. After processing, distribution and retail marketing come into the picture to complete the chain of modern agriculture. These are all a part of the agribusiness concept.

General Example Number 2 — Dairy Products

The production of animal products is much like that of plants in terms of relationship to agribusiness. Dairy farming requires considerable milking equipment. This equipment is manufactured by a dairy equipment company. Animal medicines are

required to keep the herd healthy. Feed is required and may be obtained from agribusiness feed mills. Truckers are required to deliver the feed to the farm and haul the milk to a processing plant and retail outlet. Since the processing plant is preparing a food product — milk, butter, cheese and the like -- it is an agribusiness. Processed dairy products are packaged, labeled, hauled to retail stores, priced, and displayed for sale to the ultimate consumer.

Specific Example — Pimiento Peppers

Pimiento peppers are not produced in the same volume as corn or dairy products. Yet, they are important to the pimiento pepper farmer, processor, and consumer. Most consumers eat them in pimiento-cheese sandwiches or stuffed olives. Consumers usually give little thought to what is involved in making the small jars or cans available on supermarket shelves. In reality, the story behind a jar of pimiento peppers is fairly long and complicated.

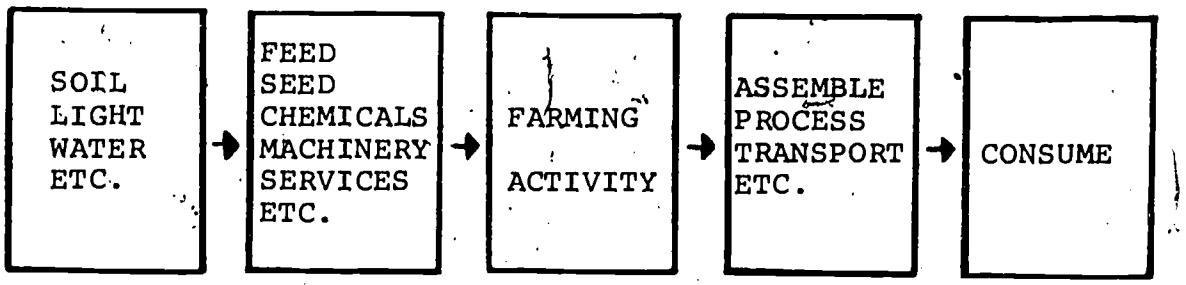
The pimiento pepper story could begin with the pepper farmer, but not necessarily so. Pepper farmers must have seed to plant. They usually depend upon pimiento pepper seed farmers to raise the seed, processors to prepare and package the seed, and agricultural supply businesses to make the seed available. But it is often necessary to go back to the plant breeder who developed the variety the seed farmer planted. To get seed to the farmer also requires transportation, record keeping, sales activities, and other functions.

Once a pimiento pepper farmer has seed, he is ready to plant. Equipment is needed to prepare the soil, plant the seed, and apply fertilizer and chemicals. Each of these has a long story. For example, the equipment must be manufactured, maintained, and transported to the farm. Fuel is required to operate the engines. Fertilizer and chemicals must be manufactured, transported, and sold. At the proper time the matured pepper pods are harvested and hauled to a collections point. Here grading and preparation for shipping to the processing plant occurs. Upon arrival at the processing plant the peppers are further graded and cleaned in preparation for processing. The procedures in processing involve (1) removing the skin by burning with a flame until black and washing off with a jet of water, (2) removing the core with an automatic coring machine or by hand. (3) placing in jars or cans (this may be done by hand or mechanically), (4) sealing the jars or cans, (5) properly heating the sealed jars or cans in retorts, and (6) labeling and placing in shipping crates. From here the pimiento peppers may go to distribution centers, food brokers, or wholesalers and on to retail supermarkets for stocking on the shelves.

These examples are in general terms and do not give the full details of all that is involved. Other examples could be cited showing the relationship of agribusiness to farming and agriculture. This relationship is very complex and not easily separated. In fact, without agribusiness, modern farming could not exist. The phrase, "agriculture is more than farming," has come into common use in recent years. This is a very true phrase and one which shows how the businesses and industries supplying the inputs for farming are a part of the industry of agriculture. Likewise, the businesses and industries handling the products of farms are also a part of agricultural industry.

3. What is the "chain of agribusiness"?

The "chain of agribusiness" illustrates the nature of agribusiness. Figure 2 shows the dependency of the farmer upon supplies and product preparation that is not done on the farm. Likewise, it shows how consumption and natural resources are also involved. All links of the chain are necessary. Agriculture could not exist as it does today without all five links. Certainly, the importance of agribusiness is obvious.



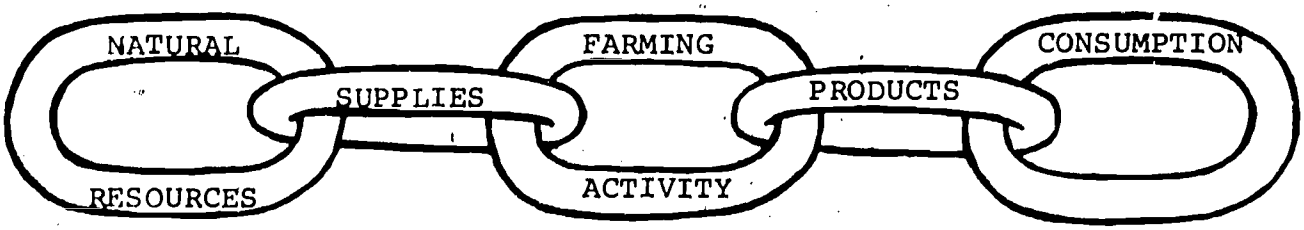


Figure 2: CHAIN OF AGRIBUSINESS — Each link depends on the other. If any link fails, modern agriculture fails.

4. How did agribusiness evolve?

Agribusiness as we know it today did not just suddenly appear. It evolved over a period of many years. Likewise, it is ever changing and will not remain as it is today. The development of agribusiness is more readily understood when the history of agriculture in the United States is briefly reviewed.

Agriculture has always been important in the economy of the United States. For the early settlers, agriculture was farming. Likewise, farming was the way of life. Most people worked at or near their homes. Practically everyone farmed. In 1790, 90 percent of the colonists made their living from farming. Many supplemented this by hunting and trapping. Little money was needed and little was available. Most of the food and clothing was produced at home. Only necessary items which could not be produced at home, such as sugar, flour, and kerosene were purchased. The farms were largely self-sufficient; that is, most farms produced only for the needs of the persons living on the farm. (Figure 3 depicts life on an early farm in the United States.)

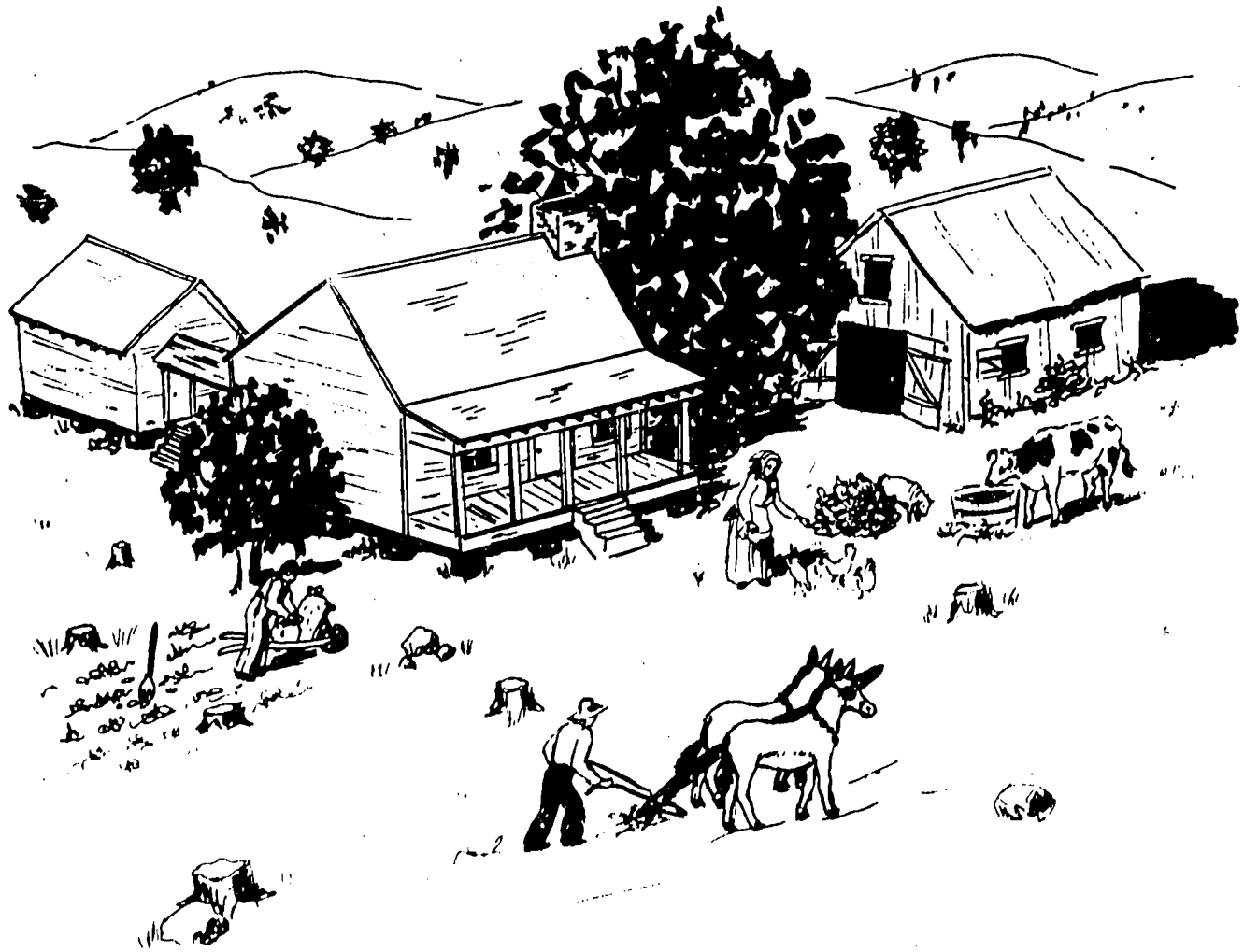


Figure 3: A Farm in the Early 1800's.

Changes on a National Scale

The early settlers in the United States arrived along the Atlantic Coast. One of their first concerns was to obtain food. Even though wild foods were available, these were not sufficient to supply the demands of the settlers. Practically every family operated a small farm. On it they grew basically the the items they would consume themselves — corn, beans, squash, pumpkins, tomatoes, tobacco, cotton, and, a little later, potatoes. The farmers were largely self-sufficient. A few farmers grew a few extra crops and exported the excess to the countries in Europe, primarily England. The country receiving the exported crops was to a large extent determined by which country controlled the land on which the crops grew. Agriculture was involved in commerce but was not said to be "commercial" in the sense that farmers were producing for specific markets.

Several traits characterized the early efforts in agriculture. First of all, there was a westward movement from along the Atlantic Coast. New and better soils were located. Exploration found areas that were better suited to certain crops than other areas. The New England area did not have the advantages of fertile soil, suitable climate, and available land for agricultural productivity as did the South and West. Consequently, New England turned to manufacturing. The remaining agricultural production centered on those crops which were highly perishable and bulky to transport.

Poor transportation, especially in the inland areas, hampered early agricultural development. The local communities, therefore, were largely self-sufficient. This gave rise to specialization within the local communities. Practically every community had cabinetmakers, blacksmiths, carpenters, preachers, and shoemakers. As time went by, farmers began to buy more and more from these "specialists." Therefore, they produced fewer of the items at home that they could buy elsewhere.

In the mid 1800's, regional specialization began to take place. This was stimulated by developing systems of communications and transportation and a free exchange market. Certain geographical areas were better suited to some crops, that is, there were advantages over other areas for the crops. Cotton was best suited in the South. Grain crops were best suited in the Midwest and West. Through the years this trend has continued. Crops have been grown in the areas where they were best suited and most profitable. Communication systems allowed farmers to begin correspondence with buyers located many miles away. The exchange market allowed the farmer and buyer to trade more freely. Neither was compelled to buy or sell.

Tremendous increases in agricultural output occurred in the late 1800's and early 1900's. New developments were made in farm machinery. Mechanical power replaced animal power. Output per worker went up. Inland transportation greatly improved, first with railroads and then with trucks. Specialization became even greater. Industry made considerable advancement. New chemicals, crop varieties, and cultural techniques boosted agricultural output while at the same time reduced farm labor requirements. (Figures 4 through 6 illustrate the extent to which output per worker has changed since the late 1940's.)

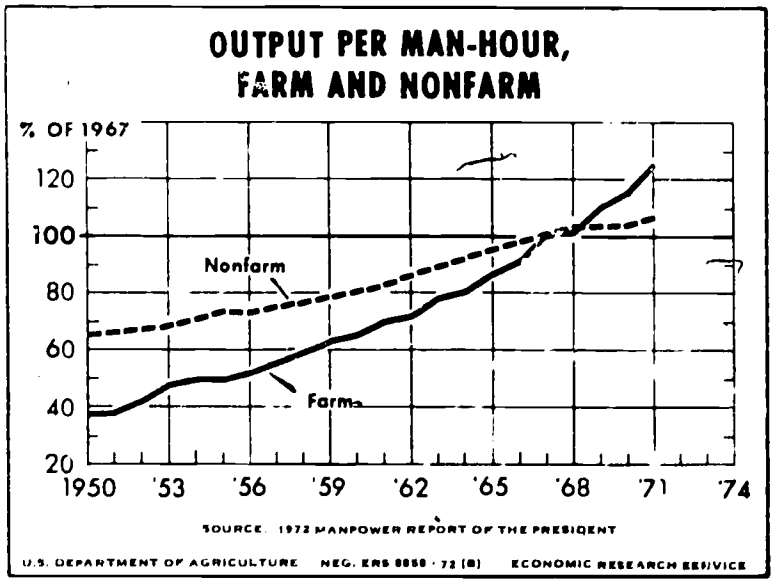


Figure 4: Output of farm workers per hour worked has greatly increased since 1950. In fact, it has increased more rapidly than output by industrial workers. This graph shows that in terms of 1967, farm workers have surpassed nonfarm workers in percent of increase.

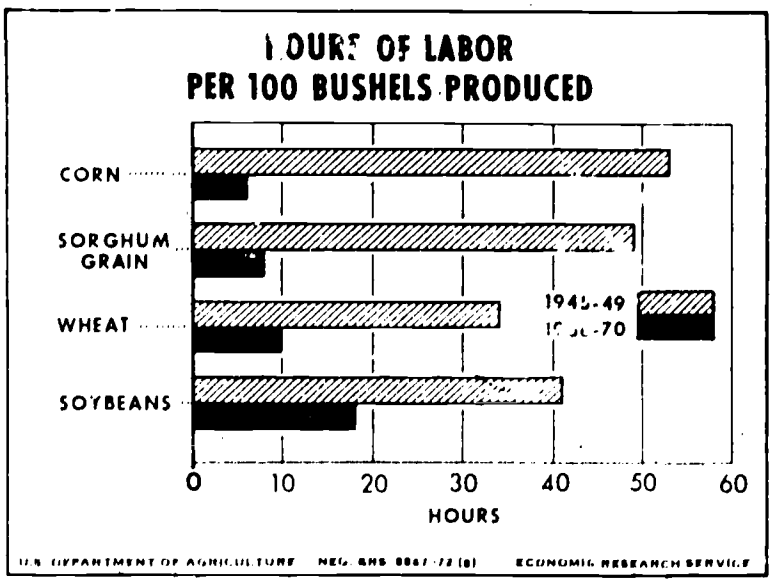


Figure 5: The amount of labor required to produce most farm commodities has greatly declined in recent years. This is due to specialization, improved technology, and increased education. For example, in the period of 1945-49, more than 50 hours were required to produce 100 bushels of corn. In the period of 1966-70, only a little over 5 hours were required to produce the same amount of corn. This can be attributed to using improved hybrid varities, better weed and pest control, improved fertilization practices, and other advances. Agribusiness has definitely had a role in these changes.

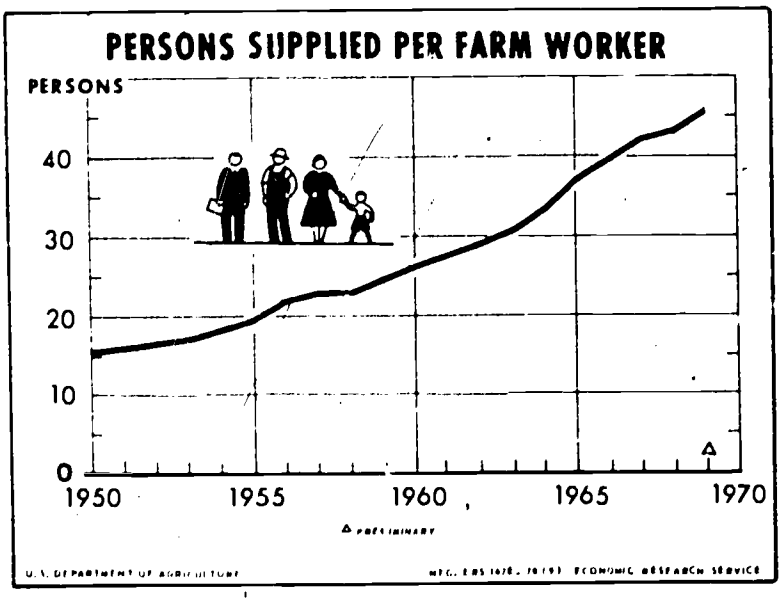


Figure 6: The number of persons supplied per farm worker has greatly increased since 1950. This is due to a number of factors, including the role of agribusiness in providing supplies and services formerly performed on the farm.

Specialization is an important feature of agriculture today. Some farms produce only one crop. Certain agribusinesses may supply or ly one item, such as a specific insecticide, or process only one product, such as cheese. This means that they are highly specialized. Industrial workers are also specialized, perhaps more so than farmers. Many industrial workers perform only one small, but important task in the manufacture of goods. Both farmers and industrial workers obtain money for their work activities. This money is used to purchase goods and services made available by other specialized workers.

Changes in the State

Agriculture began in Mississippi much as it did throughout the United States. The first farming efforts by settlers in the State were in the vicinity of Natchez. In the early 1700's only a few wealthy farmers had as much as 100 acres of land in cultivation. Most farmers cultivated no more than 10 acres. Such farming provided little more than for the needs of the families. In other words, this was self-sufficient farming. The crops produced included cattle, hogs, tobacco, indigo, cotton, hemp, flax, potatoes, corn, and rice.

Growing the crops was not an easy task. Insect pests could rapidly destroy some crops, especially indigo. It was almost impossible to obtain the few iron implements that had been developed. Transportation was very poor, except along the Mississippi River. This made it difficult to get the implements and to ship the crops that were grown.

Changes began to occur in Mississippi agriculture around the 1800's. The first Whitney cotton gin in the State was constructed in 1795. Cotton production boomed around Natchez shortly afterward. Other crops, such as indigo and tobacco, declined. Farming activity spread rapidly into other areas of the State, especially the hills. The delta region developed more slowly and remained relatively unsettled until after the mid 1800's.

Today, agriculture in the State is highly sophisticated and different from earlier years. The delta region is highly productive and specialized. Cotton, soybeans, and rice predominate. In other sections of the State, cotton, soybeans, beef cattle, poultry, and forestry predominate. In recent years catfish farming has emerged as a new agricultural enterprise. Today farming may not be considered a way of life, but it is viewed as any other business. People who farm have many of the same modern conveniences as people who live in the cities and suburbs. Farming requires the inputs from many agribusinesses. In fact, farming today could not exist without agribusiness.

5. How can the evolution of agribusiness be depicted?

Figure 7 is used to depict the evolution of agribusiness. Note that in the early 1800's agriculture was centered almost entirely on the farm. Farmers were self-sufficient. This means that they were able to meet most of their own needs without obtaining much from outside sources. If any excess crops were grown, these were often exchanged with the village blacksmith or cabinetmaker for their services. This meant that the blacksmith or cabinetmaker had either skills or goods the farmer wanted. The farmer came to realize that because of his skill a blacksmith, for example, could produce better tools than the farmer himself could make. Thus the farmer started obtaining his tools from the person who could make them best in exchange for harvested crops or income derived from the harvested crops.

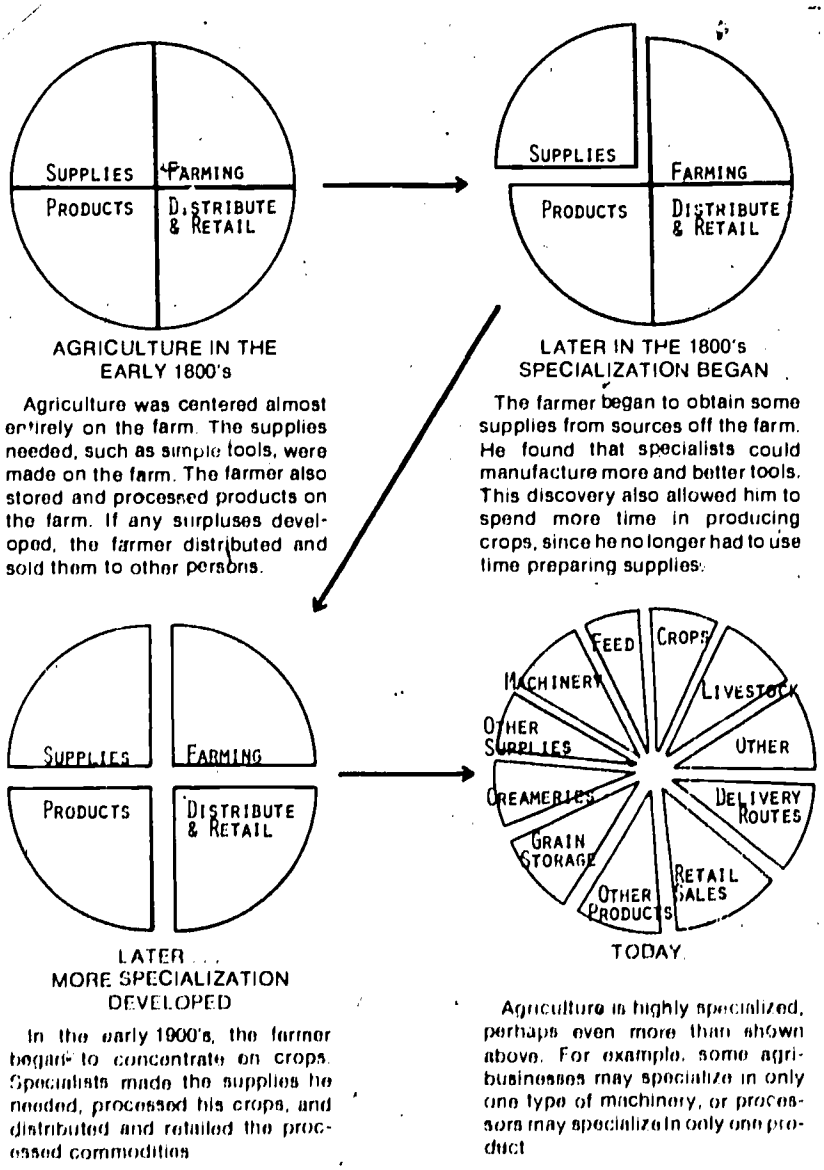


Figure 7: Evolution of Agribusiness

The effect of the evolution of agribusiness was to reduce the number of operations performed on the farm. This means that many farm functions were transferred to off-farm businesses. Traditional farm activities were decentralized and segmented. That is, all of these activities no longer centered on the farm, but were segmented and performed by a number of specialists. Today, there are specialists in feeds, insecticides, fertilizers, farm equipment, processing, and all other components of agribusiness. (Figure 8 shows a modern agribusiness.)

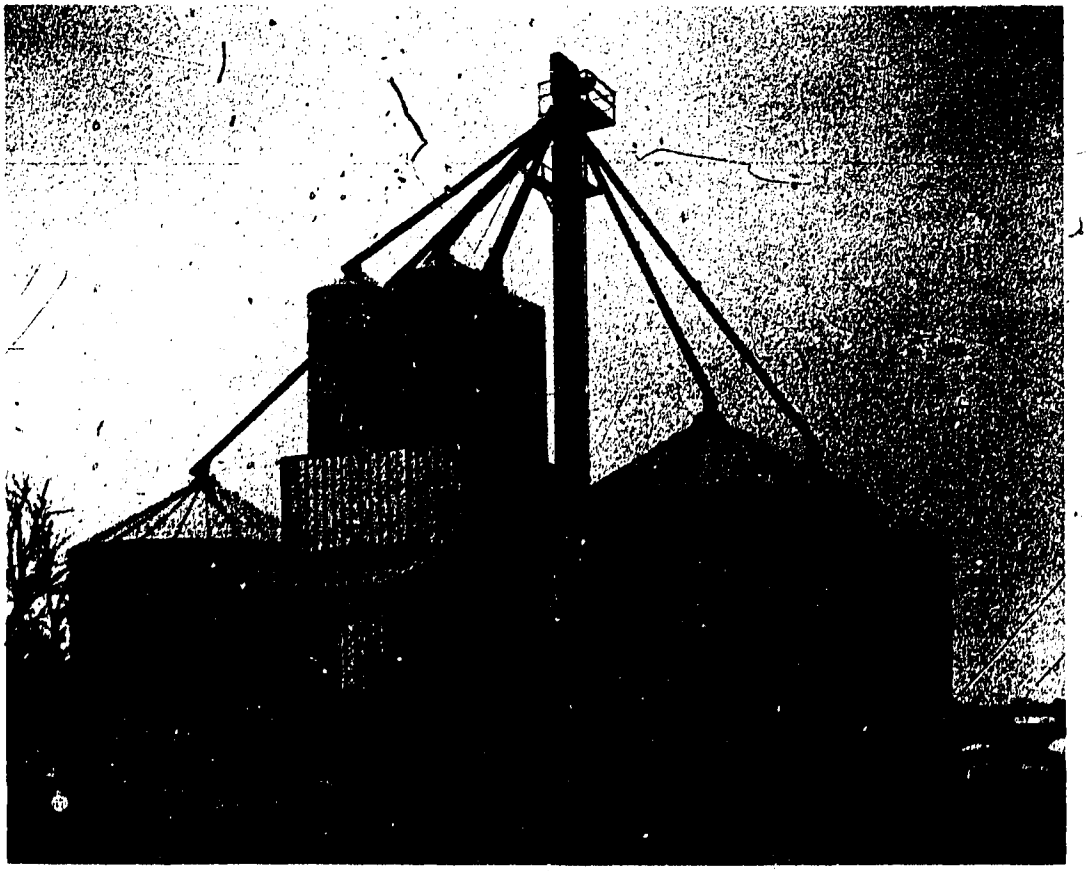


Figure 8: Inputs for Agricultural Production are Provided by Modern Agribusinesses. (The above photograph shows a modern feed mill.) (Courtesy Agri-Products Division, Butler Manufacturing Company)

6. What contributed to the evolution of agribusiness?

Agribusiness came into being because of changes in agriculture and other sectors of the economy. In fact, these changes have been so great that the term "agricultural revolution" is often used. It is impossible to single out any one thing that contributed to these changes. Many things have been involved, often in highly complex relationships. Some of the main contributors are said to be the following:

1. An abundance of fertile soil and other natural resources.
2. Exploitation of natural resources in colonial times by the mother contries.
3. Rapid industrial development. sometimes known as the "Industrial Revolution."
4. Regional specialization so as to achieve more efficient use of scarce resources.
5. Mechanization and the replacement of animal power with mechanical power.
6. Improved systems of transportation and communication.
7. Research and education programs.
8. War and other conflicts.
9. Work ethic of the people, including their motivation and ability to overcome setbacks.
10. Specialization in agriculture production and industry.
11. Economic rewards for work.
12. Scientific and technological developments.

7. How important is agribusiness?

The importance of agribusiness can be measured in a number of ways. First of all, it is important because it supplies many of the essentials required for human life. Secondly, it is important in the economy as a provider of jobs, producer of goods, and consumer of manufactured products. Several areas of importance are discussed on the following pages.

Importance of Farming

It is a well-known fact that production agriculture (farming) is important to the economy of the United States. The total value of all farm marketing is in the vicinity of $50 billion each year. Table 1 shows the cash receipts from farm marketings for various farm products in a recent year. It should be noted that these figures do not include processing or other preparation required for consumption.

Table 1

Cash Receipts from Farm Marketing — United States, 1970

Crop	Millions of Dollars	
Cotton (lint and seed)	$ 1,267	
Tobacco	1,388	
Food grains	1,982	
Oilbearing crops	3,189	
Feed crops	4,707	
Vegetables	2,826	
Fruits and tree nuts	2,088	
Other crops	2,189	
Total - all crops		19,636
Hogs	4,510	
Cattle and calves	13,662	
Sheep and lambs	325	
Wood	57	
Dairy products	6,523	
Eggs	2,169	
Broilers and farm chickens	1,562	
Turkeys and other poultry	572	
Other livestock and products	215	
Total — all livestock and products		29,595
Total — all farm marketings		$49,231

Source: U. S. Bureau of the Census. **Statistical Abstract of the United States: 1972.** Washington: U. S. Department of Commerce, 1972. p. 598.

The value of the farm products produced in Mississippi has increased considerably in recent years. In fact, the value was $1.5 billion in 1972. This is to be compared with a value of less than $1 billion in 1964. Much of the increase in recent years has been due to rising beef cattle numbers and prices. Table 2 summarizes the value of farm products in Mississippi.

Table 2

Value of Farm Products — Mississippi 1972

	Millions of Dollars
Cotton	$ 423
Soybeans	185
Food grains	24
Feed crops	57
Horticultural crops	27
Meat animals	329
Dairy (milk)	67
Poultry and eggs	202
Forestry	158
Catfish	18
Flowers and shrubs	12
	$1,500

Source: **Progress of 1.5 x '75 Program**, Publication 816. Mississippi State: Mississippi State University, Cooperative Extension Service, 1973.

Consumption of Farm Products

Every person is a consumer of farm products. Without consumption there would be no need for farming or agribusiness. In a recent year the average person consumed close to 1500 pounds of farm-produced food commodities. Table 3 gives a brief summary of per capita consumption of selected foods. The amounts given are averages. This means that some persons consume more than the amount given and others less in a year's time.

Table 3

Annual Per Capita Consumption of Selected Farm Products — United States, 1971

	Pounds
Food Products	
Beef, veal, pork, lamb, and mutton	192
Chicken and turkey	50
Fresh fruits	81
Processed fruit and juices	51
Fresh vegetables	97
Canned or frozen vegetables	60
Dairy products (whole milk equivalent)	557
Potatoes and sweet potatoes	126
Nonfood Products	
Cotton	19
Wood	1 1/3
Paper	550

Source: "Background on U. S. Agriculture," Leaflet No. 491. Washington: U. S. Department of Agriculture, 1972.

Utilization of Labor

Agriculture and agribusiness are big employers of labor in the United States. One out of five persons in private employment are in jobs related to agriculture. Of these, 2 million workers are involved in providing the supplies for farming. More than 8 million persons have jobs storing, transporting, processing, and merchandising agricultural products. Over 4 million workers are involved in farming.* Other areas, including forestry and forestry products, ornamental horticulture, and natural resources, provide jobs for many people. With this in mind, out of a labor force of nearly 85 million, it is obvious that agriculture and agribusiness are important users of labor.

In Mississippi, agribusinesses employ many workers. Tables 4 and 5 give brief summaries of farm and agribusiness employment. These tables do not show that, in addition, more than 45,000 persons are employed in the forestry industry.**

*"Background on U. S. Agriculture," Leaflet No. 491. Washington: U. S. Department of Agriculture, 1972.

**"Forestry Figures Show Rise," Starkville Daily News Starkville, Mississippi, November 10, 1972.

Table 4

Farm Employment in Mississippi

Number of farms	91,000	
Number of farm workers:		
Family	93,000	
Hired	32,000	
Total		125,000

Source: **The Mississippi Market Bulletin.** Jackson: Mississippi Department of Agriculture and Commerce, September 15, 1972.

Table 5

Agribusiness Employment in Mississippi

	Number of Businesses	Number of Workers
Manufacturing	1,707	62,000
Retail	9,723	38,700
Wholesale	739	8,600
Total	12,169	109,300

Source: **The Mississippi Market Bulletin.** Jackson: Mississippi Department of Agriculture, September 15, 1972.

Consumption of Manufactured Products

Agriculture is a big consumer of manufactured products, some of which are produced by agribusiness. In the United States, farmers spend about $43 billion a year for goods and services to produce crops. Each year $5.2 billion is spent for tractors and other motor vehicles, machinery, and equipment. To produce this equipment requires 119,000 workers. In using the tractors and motor vehicles, $4.4 billion of fuel, lubricants, and maintenance is required. It has been said that farming uses more petroleum than any other single industry.[1]

Some of the major expenses of agricultural production are summarized in Table 6. Services used by farmers are shown in Table 7.

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[1] "Background on U. S. Agriculture," Leaflet No. 491. Washington: U. S. Department of Agriculture, 1972.

Table 6

Selected Agricultural Production Expenditures — United States, 1970

Feed purchased	$ 7,068 million
Seed purchased	736 million
Fertilizer and lime	2,097 million
Taxes on farms	2,994 million
Interest on farm mortgage debts	1,732 million
Wages paid to hired farm labor	3.394 million

Source: U. S. Bureau of the Census. **Statistical Abstract of the United States:** 1972. Washington: U. S. Department of Commerce, 1972, p. 596.

Table 7

Agricultural Services: Number of Establishments, Number of Workers, and Gross Receipts, by Major Kinds of Services, 1969[1]

Kind of service	Establish-ments	Gross receipts	Number of workers	
			Unpaid	Paid
	Number	Million Dollars	Thousands	Thousands
Cotton ginning	980	80	(2)	.22
Feed grinding and and mixing	464	25	1	1
Corn shelling, hay baling, and combining	1,084	17	1	3
Contract services for fruits and vegetables[3]	324	146	(2)	45
Other crop services	2,837	247	3	178
Veterinarians and animal hospitals	10,098	537	13	30
Poultry hatcheries	615	145	1	7
Feedlots and other animal services	2,227	351	2	18
Lawn, tree, and landscaping	12,829	545	15	107
Hunting, and game propagation	107	1	(2)	(2)
Total agricultural services	32,565	2,094	37	423

[1]Nearly half the agricultural services shown in this table were performed for nonfarmers. For example, nonfarmers received about two-thirds of the veterinary and animal services, and almost all the lawn, and landscaping services.

[2]Fewer than 500 workers.

[3]Includes sorting, grading, and packing.

[4]Includes services furnished by farm labor contractors, farm management services, crop drying other than corn, citrus grove services, crop dusting and spraying, fertilizer application, and plowing and seedbed preparation.

Source: Economic Research Service. "1973 Farm Cost Situation." Washington: U.S. Department of Agriculture, February, 1973. p. 13.

Purchases made by farmers in Mississippi contribute a considerable amount to the income in the State. Some of these purchases are summarized in Table 8.

Table 8

Purchases by Farmers in Mississippi in a Recent Year

Fertilizer and lime	$ 43 million
Commercially processed feeds and seeds	134 million
Fuel, lubricants, and repair parts	45 million
Pesticides	18 million
Hand tools, containers and miscellaneous supplies	10 million
Tractors	20 million
Farm trucks	11 million
Machinery and equipment	25 million
Building materials	37 million

Source: "Purchases by Farmers in State Have Hefty Impact on Economy," **The Clarion-Ledger.** Jackson, Mississippi, Friday, October, 15, 1971.

8. What are some terms that are used in describing agribusiness?

Today, agriculture in Mississippi is much more than living and working on a farm. It includes work on the farm, as well as work off of the farm that supports farm work. Some key words that are often used to describe agriculture and agribusiness include: specialized, diverse, interdependent, mechanized, and technical.

"Specialized" agriculture means that some people concentrate their efforts in one particular area. Farmers may specialize in one or two crops, such as cotton or beef cattle. Agribusinessmen may specialize in chemicals, equipment, or some other area. Some may specialize in a specific area of chemicals, such as chemicals to control weeds (herbicides) or insects (insecticides). In equipment some may specialize in harvesting equipment, others in planting equipment, and still others in tillage equipment. And within these, workers may further specialize. (Figure 9 shows a specialist at work in a plant manufacturing agricultural equipment.)

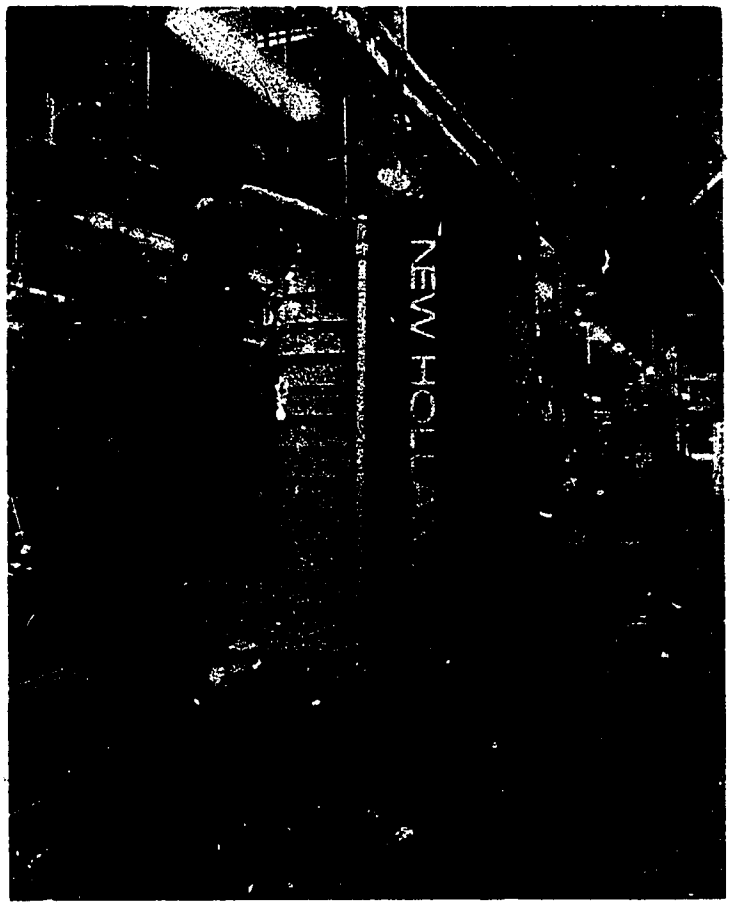

Figure 9: Agricultural Industries Employ Specialists Who Manufacture the Equipment Needed for Farming. (Courtesy New Holland Division of Sperry Rand Corporation)

"Diverse" agriculture means that considerable variation is found in it. Farming varies from one section of the State to another. The work of persons in agribusiness varies from one section of the State to another and from one business to another. There is a wide range in job and business activities. Many of these require considerable knowledge of up-to-date farming practices.

"Interdependent" means that different segments of agribusiness cannot exist alone; that is, they rely on each other for support. It accompanies specialization. For example, the farmer depends on the local seed dealer for seed. The dealer, in turn, secured the seed from a distributor or processor. Likewise, the processor secured the equipment needed to process the seed from a seed handling equipment manufacturer. This element of dependency is found in all segments of the economy of the United States, in addition to agribusiness.

"Mechanized" agriculture means that animal power has been replaced with mechanical power. Today's farmer depends upon tractors and powered implements. These are used to do the work formerly done by hand or with a team of oxen or mules. Since one tractor may have the power of many animals, it can do more work. And since it can do more work, fewer man-hours are required to grow crops. Not only is crop production mechanized, but so are other areas in agribusiness. For example, fertilizer manufacturers use machinery in all aspects of fertilizer production, including mining, lifting, hauling, mixing, bagging and loading.

"Technical" means that knowledge of applied science is required in order to work in agribusiness. Examples include the technical skills required for repairing agricultural machinery, calibrating sprayers, conducting soil tests, selling agricultural chemicals, and testing milk in a processing plant. Farmers must also have many skills in technical areas. For example, a greenhouse grower must know the effects of sunlight on plants. He must know how to regulate the light in order to get the plants to have blossoms. He must also know how fertilizer and water applications are related to light regulation and stage of plant growth. A knowledge of mathematics is also required in order to determine the amount of fertilizer, water, and light needed.

These are a few of the terms which describe modern agriculture. Many of them appear very often in books and bulletins about agriculture.

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